

XXXV.—*The Spring Migration at Chinwangtao in North-East Chihli.* By J. D. D. LA TOUCHE, M.B.O.U.

[The following paper, containing a report on migration in northern China, was prepared by Mr. La Touche for the British Ornithologists' Club, and is a continuation of a previous record of observations in the Island of Shaweishan published in the Bulletin of the Club, vol. xxix. 1912, pp. 124-160. The Committee of the Club, however, consider that long articles such as these are out of place in the Bulletin, and have, therefore, handed over the present report to us for publication in the pages of 'The Ibis.' The report has been revised and arranged by Mr. C. B. Rickett, and to him our best thanks are due for the trouble he has taken in the matter.—ED.]

INTRODUCTION.

CHINWANGTAO is situated on the north-east coast of Chihli, inside the entrance to the Gulf of Liautung— $39^{\circ} 55'$ N. by $119^{\circ} 38'$ E. The Island, or peninsula rather, as it is connected with the mainland by the railway embankment and by a causeway enclosing a large pond much frequented by wildfowl during the migration season, is separated from the dunes of the north-east beach by a narrow tidal creek, which was dug some thirteen years ago to provide an outlet to the small stream which originally had its mouth at the north-west corner of the then peninsula, now blocked by the above mentioned embankment. There is no doubt that Chinwangtao was originally an island, and that when the sea receded, probably not many hundred years ago, it remained a rocky headland, breaking as at present the curve of the bay that extends from the ruins of the Great Wall of China on the shores of Shanhaikuan to the well-known Foreign summer settlement of Peitaiho. The island is about midway between these two localities. The mountains, which run north-east and south-west, are about four or five miles from the sea at Shanhaikuan and some twelve miles at Chinwangtao, the plain gradually widening, until a little beyond the Luan River it merges into the great eastern plain of Chihli.

The climate of Chingwangtao is extremely dry and bracing.

Almost incessant winds prevail during a great part of the year, and at Chinwangtao itself these are very variable, often shifting all round the compass within a very few hours. From the middle or end of December, according to the prevailing temperature, the bay is frozen over, and the ice does not disappear, even in mild seasons, much before the middle of February. The minimum temperature in winter rarely falls below -7° Fahrenheit, the mean winter temperature being between 18° in cold winters and nearly 26° for mild seasons, while in summer the mean temperature of July and August ranges from 72° to $75^{\circ}5$, seldom reaching above 90° .

From its somewhat prominent position at the entrance of the Gulf of Liautung, and with only a narrow strip of plain between it and the mountains, Chinwangtao is an excellent place for watching the passage of birds. The island is hardly inhabited, there being altogether but five houses on the cliffs facing the sea, and the cover is just sufficient to induce birds to tarry awhile after landing, and neither high nor thick enough to cause any impediment to the observation of birds on the wing or settled. The autumn migration is the one most easily studied. The birds when bound south appear generally to follow the coast line, and many species may be observed by day, skirting the coast or passing overhead, either over Chinwangtao or not far inland. At that season, wagtails, pipits, larks, swallows, sand-martins, black drongos, rooks, jackdaws, the Oriental carrion crow, swifts, all kinds of Accipitres, cranes, bustards, and innumerable waterfowl may be seen passing by day, sometimes in scattered flocks, and often, as in the case of the smaller Passeres and rooks, in long streams which pass down the coast at no great distance from the sea. The first to appear are curlews and the sea-gulls (*Larus ridibundus*) some time in July; then at the end of July and beginning of August, snipe, waders, and many terns fly past. During August and early in September, the millet fields swarm with reed-warblers (*Acrocephalus bistrigiceps*, *A. tangorum*, and *A. sorghophilus*), while swallows, sand-martins, wagtails, pipits, drongos, swifts, and other birds pass overhead in numbers. At the port itself on suitable days the

cover is full of robins (blue-throats, ruby-throats and blue robins) and of willow- and reed-warblers. Late in August and in September, when the crops are ripening, the fields absolutely swarm with buntings, and quantities of grasshopper-warblers are found. The wildfowl then appear. In October, rooks, jackdaws, larks, cranes, bustards, ducks, and geese pass in numerous flocks, and throughout these months birds of prey of all kinds are abundant.

The spring migration is comparatively less interesting and not so easily followed, as the smaller Passeres do not pass in flocks or streams but suddenly appear in the cover on the island, often to disappear as suddenly. Their descent on Chinwangtao is to a great extent dependent on weather conditions, and a favourable wind or the clearing up of the weather generally drives many species away at once. Thus this spring (1914), which has been unusually dry, was remarkable for the scarcity of warblers, flycatchers, quail, and robins, and these birds must have scattered inland almost immediately on arrival. Although last winter was abnormally mild, I did not notice that birds arrived any earlier than usual. In normal years, the first birds to appear in spring are gulls, rooks, and geese, generally at the end of February. The wildfowl then pass, the geese until the middle of April and the ducks until May. In April small Passeres pass in increasing numbers, and the migration of nearly all the birds, with the exception of the wildfowl, is at its height towards the middle of May. The first small insectivorous Passeres to pass are *Ruticilla aurorea*, *Ianthia cyanura*, and *Accentor montanellus*. The latter also winter here in sheltered places. Larks, buntings, and bramblings are abundant during April and also hoopoes and pipits; wagtails and swallows appear during the latter half of the month. During May there are rushes of flycatchers, swallows, sand-martins, robins, pipits, wagtails, warblers, buntings, rosefinches, and quail. The migration continues well into June, but after the end of May, arrivals rapidly diminish and consist chiefly of *Locustella certhiola*, reed-warblers, and quail (*Coturnix* and *Turnix*). Inland, there is not much

bird-life until the beginning of May, but during that month the country simply swarms with birds on favourable days. Although the spring migration may be said to be over after the first week in June, late arrivals continue to straggle in nearly to the end of the month, and the first autumn migrants, curlews and probably other waders, are heard passing at night, during stormy weather, as early as the middle of July. Thus, it may be said that on the China coast the birds are on the move from February to mid-November north of the Yangtse, and later than that in south China, practically without interruption. The notes taken in 1911 and 1912, in my leisure hours (in the morning, at noon, and after 4 p.m.), are not sufficiently full to show all the bird movements of the northern China coast, but, nevertheless, in conjunction with the fuller observations taken by the collectors engaged by the B.O.C. Migration Committee, indicate the importance of Chinwangtao as a post of observation for the study of bird migration, and it is probable that the migratory birds of Manchuria with few exceptions pass the port on their way to their breeding grounds. It would appear that in spring, migrants, wildfowl excepted, strike across the gulf from the north-east promontory of Shantung and reach this place without touching land after they have passed the Miautau Is. and the southernmost point of the Liautung Peninsula. Birds found dead at sea off the port or on the seashore at Chinwangtao, or seen arriving from over the sea, would seem to confirm this supposition, and a look at the map of this part of China will show it to be not improbable. Of course a number of birds reach Manchuria via inland China, and this would explain the almost total absence of notes on many common birds in the following pages. The same remarks will probably apply to Taku, at the mouth of the Peiho, and other places on the north coast.

In autumn, all the Manchurian migrants would appear to pass down the coast as far as this place at least, and they most probably continue following the coast line to Taku and its neighbourhood.

From what I have seen of the wildfowl, they appear to

follow the coast or pass over the plain within a short distance of the sea both in spring and in autumn, and I do not remember noticing arrivals of ducks and geese from across the sea. The lack of notes on these birds taken by the collectors at Shaweishan, 30 miles from the mouth of the Yangtse, would seem to corroborate my local observations that the geese and ducks do not travel far from the coast-line, but keep to the vicinity of the coast or else fly overland.

The Hsieh Chia Ying Marshes mentioned below are situated some 25 miles down the coast. They were visited by the collectors at the end of March, 1913.

The "Marshes" are those about four miles from Chinwangtao, on the way to Shanhaikuan.

The "Port" indicates the actual island of Chinwangtao, about three-quarters of a mile across or less, and its immediate vicinity.

"Inland" refers to the interior from four to eight miles inland of the port.

Except where specially indicated, all figures giving numbers of birds seen, of ten and above, are roughly approximate. It has been impossible to state whether birds seen inland were new arrivals, but it may be taken as almost certain that records taken at the port indicate arrivals of the actual day, as birds as a rule do not tarry here, but go on at once.

WEATHER.

[Mr. La Touche has sent daily reports of the weather at Chinwangtao from the 9th of March to the 15th of June, 1911, 1912, and 1913, from which the following notes have been taken.]

1911.

MARCH. *Ther. Max.* 50° on the 26th. *Min.* 22° on the 3rd and 10th. *Mean* 34°·5. *Rain* 1·60 inches on the 22nd and 26th. *Snow* 1·25 inches on the 11th, 12th, 15th, 21st and 29th. *Wind.* A strong gale from the north-east on the 29th, during the rest of the month varying from calm and light airs to moderate breezes.

APRIL. *Ther. Max.* 71° on the 30th. *Min.* 29° on the 1st. *Mean* 48°. *Rain* 1·57 inches in 42 hours on the 7th, 8th, 12th, 16th and 19th. *Wind.* Fresh gale from the north-east on the 12th, moderate gales on the 13th and 19th from the north-east and on the 25th from the north-north-east. Rest of the month varying from light airs to strong breezes.

MAY. *Ther. Max.* 80° on the 7th. *Min.* 40° on the 5th and 14th. *Mean* 59°. *Rain* 2·70 inches in 20¼ hours on the night of 30th of April/1st of May, and that of the 2nd/3rd of May, and also on the 18th, 25th and 26th. *Wind.* A fresh gale from the north-east was registered on the 17th, and moderate gales from the south-west on the 5th and the north-east on the 15th. Fresh and strong breezes occurred frequently throughout the month.

JUNE. *Rain* fell on the 1st, 2nd, 3rd, 10th and 15th. *Wind* varying from light to fresh breezes with a strong breeze from the north-west on the 4th and from the south-west on the 10th.

1912.

MARCH. *Ther. Max.* 57° on the 20th. *Min.* 19° on the 17th. *Mean* 31°·2. *Rain* a trace. *Snow* 0·02 on the 15th and 16th. *Wind.* Fresh gales from the north-east on the 16th, the north-north-west on the 20th, and the north-north-east on the 27th; during the rest of the month light airs to a strong breeze from the north-east on the 11th.

APRIL. *Ther. Max.* 74° on the 25th. *Min.* 25° on the 5th. *Mean* 48°·3. *Rain* 1·43 inches in 21 hours 25 minutes on the 8th, 18th and 20th. *Wind.* Moderate gales from the north-west on the 14th and north-east on the 25th. Rest of the month calm or light breezes, with a strong breeze from the south-west on the 26th and 27th.

MAY. *Ther. Max.* 79° on the 27th. *Min.* 41° on the 7th and 8th. *Mean* 58°·3. *Rain* 9·18 inches in 43 hours 25 minutes on the 2nd, 3rd, 10th, 11th, 15th, 17th, 18th and 26th. *Wind* mostly calms and light airs. A moderate gale from the south-west on the 18th.

JUNE. *Rain* fell on the 8th, 10th, 12th, 13th and 14th. *Wind*. A fresh breeze from the north-west on the 8th, light breezes during the rest of the time.

1913.

MARCH. *Ther. Max.* 64° on the 28th. *Min.* 10° on the 7th. *Mean* 33°·36. *Rain* nil. *Snow* 0·54 on the 24th and 30th. *Wind*. A moderate gale from the north on the 24th; light airs and moderate breezes during the rest of the month except on the 14th and 30th, when strong breezes from the south-west and south respectively were registered.

APRIL. *Ther. Max.* 73° on the 27th. *Min.* 28° on the 9th. *Mean* 48°·78. *Rain* 1·14 inches in 37 hours 55 minutes on the 11th, 19th, 22nd, 24th and 30th. *Wind*. Strong breezes were recorded on the 10th from the south, on the 19th from the south-west, and on the 30th from the east. Light airs to fresh breezes during the rest of the month.

MAY. *Ther. Max.* 81° on the 27th. *Min.* 41° on the 2nd. *Mean* 60°·44. *Rain* 1·79 inches in 28 hours 50 minutes on the 12th, 14th and 25th. *Wind*. Light airs and moderate breezes except on the 4th and 10th, when strong breezes blew from the south-west, and on the 21st and 27th, when winds of similar force blew from the south and west.

JUNE. *Rain* fell on the 4th, 6th, 8th, 9th, 11th and 15th. *Wind*. A typhoon occurred on the night of the 8th/9th, blowing when at its height at a force of 11. For the rest of the fortnight covered by these notes nothing over a moderate breeze on the 10th was recorded.

1. CORVUS ORIENTALIS Eversmann.

1912. Beginning Feb. (2). Feb. 17 (5).

1913. March 20 (many passing).

2. CORVUS LEVAILLANTI L.

1911. May 28 (1).

1912. June 2 (1 or 2).

3. *CORVUS PASTINATOR* Gould.

1911. Feb. 28 (a party). March 11, 12, 31 (a few each day).
April 2 (building), 9 (passing), 23 (building and sitting).
1912. Feb. 20 (6). March 3 (many), 6 (passing), 9 (many), 18, 24
(passing). April 30 (a party passing). May 3 (passing).
1913. Feb. 27 (a flock), 28 (a flock). March 2 (thousands reported
passing), 5 (a flock from south to north), 11 (50), 14 (many),
16 (20), 18 (10), 22 (30), 26 (passing). April 16 (10 going
west), 23 (finishing nests and sitting), 27 (a party arriving
from over the sea).

4. *CORVUS DAURICUS* Pall.

1911. Feb. 28 (seen at the port). March 26 (a flock mixed with
C. neglectus).
1913. March 2 (thousands reported passing), 3 (3 or 4 from sea
going north), 14 (many), 16 (many), 19 (great many), 26
and 29 (seen at Hsieh Chia Ying).

5. *CORVUS NEGLECTUS* (Schlegel).

1911. March 26 (a large flock). April 2 (seen).
1913. March 14 (many), 16 (many), 19 (great many). May 1 (two
flocks, about 180 individuals, going west), 25 (a party
of 10).

6. *PARUS INSULARIS* Hellmayr.

1912. April 21 (one shot near the sea).

7. *REMIZA CONSOBRINA* (Swinhoe).

1913. May 13 (1).

8. *BUCHANGA ATRA* (Hermann).

1911. May 21 (1), 28 (1). June 11 (1).
1912. June 6 (1).
1913. May 20 (1), 31 (2). June 3 (2).

9. *ANORTHURA FUMIGATA* (Temm.).

1911. March 26 (1). April 10 (1).

10. *LOCUSTELLA CERTHIOLA* (Pall.).

1911. May 28 (many inland). June 3 (seen), 6 and 7 (many), 8 (2),
11 (3), 14 (2).
1912. June 8 (a few).
1913. May 30 (1), 31 (2 in the market at Shanhaikuan). June 2
(1), 4 (2 or 3), 5 (3 or 4), 6 (many), 7 (a few), 11 (many).

11. *LOCUSTELLA LANCEOLATA* (Temm.).

1911. May 28 (many).

1912. May 15 (many).

1913. May 19 (1), 20 (seen), 21 (1), 22 (2), 23, 25, 30, 31 (seen).
June 4 (2 or 3), 5 (seen).12. *ACROCEPHALUS ORIENTALIS* (T. & S.).

1912. May 15 (many).

1913. May 18 (a few). June 4 (1).

13. *ACROCEPHALUS BISTRIGICEPS* (Swinhoe).1911. May 21 (several), 28 (many). June 7 (many), 8 (5), 11 (1),
14 (1).1912. May 15 (many), 28 (5), 29 (seen), 31 (few). June 7 (several),
8 (a few).1913. May 17 (several), 20 (several), 23 and 25 (seen), 27 (2), 29
(1), 30 and 31 (seen). June 2 (3), 4, 5 and 6 (seen), 7
(many), 10 (1), 11 (great many), 12 (a few).14. *ACROCEPHALUS TANGORUM* La Touche.

1913. May 30 (2). June 2 (2).

15. *ACROCEPHALUS SORGOPHILUS* (Swinhoe).

1911. June 7 (1).

1913. May 30 (1). June 6 (several), 7 (many), 10 (1).

16. *ARUNDINAX AËDON* (Pall.).

1912. May 15 (seen), 28 and 29 (seen), 31 (2). June 2 (1).

1913. May 18 (a few), 22 (2), 23 (seen), 24 (1), 29 (1), 30 (several),
31 (1). June 2 (1), 5 (1).17. *HERBIVOCULA SCHWARZI* (Radde).

1913. May 16 (4), 17 (1), 26 (2). June 4 (1).

18. *HERBIVOCULA FUSCATA* (Blyth).

1911. April 21 (4).

1912. April 30 (1). May 13 and 28 (seen).

1913. April 27 (1), 28 (4). May 1 (2), 5 (3), 14 (2), 16 (many), 17
(2), 19 (2), 20 (seen), 21 (many), 22 and 23 (seen), 24 (1),
30 (1).19. *PHYLLOSCOPUS PLUMBEITARSUS* Swinhoe.

1912. May 28 (seen).

1913. May 16 (3). June 6 (several), 7 (many).

20. *PHYLLOSCOPUS BOREALIS* (Blasius).
1911. May 25 (a few), 28 (seen).
1912. May 15 (many), 26 (2 or 3), 28 and 31 (seen). June 2 (seen).
1913. May 23 and 25 (seen), 29 (10), 30 (several), 31 (seen). June
1 (2), 2 (3), 3 (3), 7 (many), 10 (4 or 5), 11 (several).
21. *PHYLLOSCOPUS CORONATUS* (T. & S.).
1913. May 16 (3).
22. *PHYLLOSCOPUS SUPERCILIOSUS* (Gm.).
1911. April 25 (2), 30 (seen). May 7 (great many), 9 (many).
1912. April 30 (many). May 4, 6, 7, and 11 (many), 12 (a few).
1913. April 11 (1), 24 (1), 26 (2), 27 (3), 29 (many), 30 (seen).
May 1 (many), 2 (seen), 3 (seen), 4 (a great many), 5, 7,
and 8 (seen), 16 (many), 17, 20, and 23 (seen), 25 (5).
23. *PHYLLOSCOPUS PROREGULUS* (Pall.).
1911. April 14 (2), 18 (several), 19 and 20 (many), 21 (several),
23 (seen). May 7 (a great many).
1912. April 7 (1), 22 (2), 30 (many).
1913. April 8 (2), 9 (2), 11 (3), 16 (2), 24 (1), 26 (1), 27 (10),
28 (2), 29 (seen), 30 (3). May 1 and 2 (seen), 8 (2),
16 (many), 17 (seen).
24. *LUSCINIOLA SINENSIS* Witherby.
1911. April 14 (2), 16 (1).
1913. April 24 (1).
25. *LANIUS SPHENOCERCUS* Cabanis.
1911. March 26 (1).
1913. March 27 (1).
26. *LANIUS BUCEPHALUS* (T. & S.).
1913. April. Reported passing at Shanhaikuan, not seen at
Chinwangtao.
27. *LANIUS SUPERCILIOSUS* Lath.
1911. May 16 (several), 25 (1).
1912. May 15 (several).
1913. May 11 (4), 14 (3), 15 (1), 16 (5), 17 (seen), 18 (5), 20 (many),
23 (many), 26 (1), 27 (1), 30 (several). June 2 (1).
28. *LANIUS LUCIONENSIS* L.
1913. June 7 (1).
29. *PERICROCOTUS CINEREUS* Lafr.
1911. May 14 (2), 21 (2).
1912. June 2 (1).
1913. May 13 (7), 20 (seen).

30. *ORIOIUS INDICUS* Jerdon.

1911. May 21 (heard inland), 28 (seen inland).
 1912. May 15 (1 at port). June 2 (seen inland).
 1913. May 20, 25, and 31 (two seen each day inland).

31. *SPODIOPSAR CINERACEUS* (Temm.).

1911. April 2 (a small party), 11 (3 at port, large flock inland).
 May 21 (2 inland).
 1912. April 2 (1), 14 (1).
 1913. March 30 (3). April 8 (10), 9 (20), 10 (20), 11 (30), 17 (10).
 May 20 (1).

32. *STURNIA STURNINA* (Pall.).

1913. May 16 (2), 18 (1 found dead), 20 (5), 25 (2), 26 (2).

33. *ALSEONAX LATIROSTRIS* (Raffles).

1911. May 28 (seen).
 1912. May 8 (1), 13 (seen).
 1913. May 11 (1), 16 (4), 20 (2), 23 (seen).

34. *HEMICHELIDON SIBIRICA* (Gm.).

1911. May 28 (1).
 1913. May 16 (1), 23 (5), 25 (2), 31 (2). June 2 (2), 3 (3), 4 (seen),
 10 (1).

35. *POLIOMYIAS LUTEOLA* (Pall.).

1913. May 20 (3), 23 (1).

36. *SIPHIA ALBICILLA* (Pall.).

1911. May 14 (1), 15 (1), 28 (several).
 1912. May 13 (1), 22 (1), 28 (seen).
 1913. May 6 (1), 10 (1), 11 (many), 13 (11), 14 (1), 16 (several),
 19 (1), 20 (seen), 21 (1), 30 (1). June 5 (1).

37. *XANTHOPYGIA TRICOLOR* Blyth.

1912. May 11 (1).
 1913. May 13 (1), 16 (2), 20 (1).

38. *TERPSIPHONE INCII* (Gould).

1912. May 30 (1). June 2 (1).
 1913. May 20 (3), 23 (2). June 3 (1), 4 (2), 5 (2), 7 (about a dozen
 all red, except one, seen at port), 10 (3).

39. *SAXICOLA MORIO* Ehr.

1913. April 27 (1).

40. PRATICOLA MAURA (Pall.).

1911. April 20 (1), 21 (1), 24 (5), 25 (several), 28 (1), 29 (seen).
May 1 (1), 8 (seen), 9 (many).

1912. April 17 (several), 22 (several), 30 (1). May 7 (many),
12 (2), 28 (2).

1913. April 11 (12), 12 (3), 14 (1), 16 (4), 24 (1), 25 (2), 26 (1),
27 (10), 28 (1), 30 (many). May 1 (seen), 2 (many), 4, 5,
6, 7, 8, 9, and 10 (seen), 14 (many), 15 to 20 and 31 (seen).

41. RUTICILLA AUREORA (Pall.).

1911. March 21 (1), 22 to 24 (1), 26 (2). April 4 (1).

1912. April 1 (1).

1913. March 9 (1), 29 (1), 31 (1). April 19 (1).

42. CYANECULA CÆRULECULA (Pall.).

1911. May 15 (1), 16 (1).

1912. May 13 (1).

1913. May 9 (4), 11 (2), 14 (6), 16 (a few), 17 (a few), 18 (seen),
19 (1), 20 and 22 (seen), 23 (2), 24 (4).

43. CALLIOPE CAMSCHATKENSIS (Gm.).

1913. May 18 (1).

44. LARVIVORA CYANE (Pall.).

1911. May 21 (1), 28 (1).

1912. May 15 (seen).

1913. May 9 (1), 11 (1), 16 (4), 17 (several), 18 (2), 23 (3), 29 (1 ♀,
those previously seen were all ♂'s), 30 (6).

45. IANTHIA CYANURA (Pall.).

1911. April 10 (several adult males), 11 (1), 14 (seen), 18 (1),
19 (many), 21 (several), 30 (1).

1912. April 10 (1), 11 (1), 17 (1), 21 (1).

1913. April 4 (1), 5 (1), 10 (1), 11 (7), 12 (1), 14 (5), 16 (3), 21 (2),
24 (1), 25 (2), 26 (1). May 1 (seen), 13 (1).

46. MERULA OBSCURA (Gm.).

1912. June 2 (1).

1913. May 3 (1), 16 (2), 18 (1), 20 (2).

47. MERULA HORTULORUM Sclater.

1911. April 29 (2). May 1 (1).

48. MERULA NAUMANNI (Temm.).

1911. March 23 (4). April 3 (a few), 4 (4).

1913. April 1 (1), 4 (1), 5 (3), 8 (4), 9 (2), 11 (3).

49. *MERULA FUSCATA* (Pall.).

1911. April 19 (1), 20 (2), 21 (1), 24 (seen).

1912. April 10 (2), 21 (1), 30 (6). May 8 (2).

1913. March 8 (1). April 4 (1), 7 (3), 9 (1), 11 (10), 17 (2), 18 (1),
19 (3), 22 (1), 23 (4), 27 (1), 29 (3), 30 (2). May 1 (5),
2 (3), 5 (2), 6 (4), 8 (4), 18 (2), 23 (1).50. *GEOCICHLA SIBIRICA* (Pall.).

1912. May 28 (1).

1913. May 23 (1), 25 (1).

51. *PETROPHILA MANILA* (Bp.).

1911. May 6 (2 or 3), 21 (1 inland, probably breeding).

1912. May 13 (1), 15 (several).

1913. May 4 (3), 5 (2), 14 (1).

52. *PETROPHILA GULARIS* (Swinhoe).

1911. May 28 (3).

1913. May 20 (1).

53. *CARPODACUS ROSEUS* (Pall.).

1911. March 4 (a few).

54. *CARPODACUS ERYTHRINUS* (Pall.).

1913. May 16 (1), 20 (many), 22 (seen), 25 (10).

55. *FRINGILLA MONTIFRINGILLA* (L.).1911. April 9 (1), 10 (several), 11 (seen), 12 (many), 16 (a flock),
18 (a flock), 20 (2), 21 (several), 23 (a few), 24 (10).

1912. April 17 (a flock).

1913. March 31 (2). April 14 (1), 17 (10), 23 (1).

56. *COCCOTHAUSTES JAPONICUS* (T. & S.).

1911. April 23 (two apparently mated).

57. *CALCARIUS LAPPONICUS* (L.).

1911. Feb. 1 (large flocks).

1913. March 9 (many), 13 (seen), 15 (10).

58. *PLECTROPHENAX NIVALIS* (L.).1913. Feb. 23 (one shot at the port on the beach at the foot of the
cliffs).59. *EMBERIZA PASSERINA* (Pall.).1911. March 4 (many), 5 (a few), 12 (many), 22 (many), 23 (seen).
April 4 (seen), 16 (1).

1912. March 25 (1). May 3 (1).

1913. Feb. 23 (11). March 13 (2), 15 (20), 16 (20), 17 (5), 18 (10),
19 (7), 20 (10), 21 (5), 27 (3). April 8 (1), 12 (2), 17 (4),
26 (1). May 3 (5), 4 (1), 15 (several).

60. *EMBERIZA CONTINENTALIS* Witherby.
 1911. March 26 (1). April 13 (1), 14 (several), 18 (1), 21 (1)
 May 5 (1), 19 (1).
 1912. May 7 (1).
 1913. March 9 (1), 13 (7), 14 (3), 28 (1). April 11 (1), 25 (2).
 May 7 (1).
61. *EMBERIZA PYRRHULINA* Swinhoe.
 1911. March 26 (2). April 14 (several), 16 (2).
 1913. March 20 (seen), 28 (1).
62. *EMBERIZA FUCATA* Pall.
 1911. May 20 (1), 22 (1).
 1913. April 24 (1), 27 (1). May 3 and 6 (seen), 11 (8), 14 (1),
 18 (seen), 19 (1), 22, 23, and 27 (seen). June 2 (1), 5 (2).
63. *EMBERIZA PUSILLA* Pall.
 1911. April 22 (1), 23 (a few), 25 (2). May 7 (a great many),
 8 (many), 13 (a few), 21 (seen).
 1912. April 21 (1). May 11 (1).
 1913. April 11 (1), 18 (1), 23 (1), 25 (3), 27 (3), 28 (many), 29 and
 30 (many). May 1 (many), 2 (seen), 3 (many), 4 (a great
 many), 5 (many), 6 (a great many), 7 (seen), 8, 9, and
 10 (many), 11 (a great many), 13, 14, and 16 (many),
 18 (a great many), 19 (seen), 20 (many), 23 (seen):
64. *EMBERIZA SPODOCEPHALA* Pall.
 1911. April 21 (several), 25 (many). May 6 (many), 7 (a great
 many), 21 (seen), 29 (many).
 1912. April 30 (many). May 5 (seen), 15 (many).
 1913. April 11 (1), 17 (1), 18 (1), 19 (1), 21 (3), 24 (2), 26 (1),
 27 (3), 28 (1), 30 (2). May 2 (1), 3 (many), 5, 6, 7, 9, 10,
 11, 13, 14, and 15 (seen), 16 (many), 18 and 19 (seen),
 20 (many), 23 (seen). June 1 (1).
65. *EMBERIZA RUSTICA* Pall.
 1911. Feb. 28 (many). March 4 (a few), 12 (many).
 1913. March 9, 10, and 11 (many), 16 (10), 18 (5).
66. *EMBERIZA ELEGANS* Temm.
 1911. March 25 (1). April 9 (1), 10 (1).
 1912. March 19 (2).
 1913. March 28 (1). April 8 (2), 10 (1), 11 (4), 14 (seen).
67. *EMBERIZA CHRYSOPHRYS* Pall.
 1911. May 7 (a great many), 21 (seen).
 1913. May 4 (7), 9 (1).

68. *EMBERIZA TRISTRAMI* Swinhoe.

1911. April 30 (1).
 1912. May 11 (1), 30 (several).
 1913. May 11 (10). June 1 (1).

69. *EMBERIZA AUREOLA* Pall.

1911. May 15 (several), 21 (a great many), 25 (1), 28 (several),
 29 (many).
 1912. April 30 (many). May 6 (many), 15 (many). June 6
 (several).
 1913. May 6 (1), 8 (1), 10 (1), 11 (a great many), 13 (seen),
 20 (many), 24 (1), 25 (1), 26 (many), 27 (seen), 28 (seen),
 29 (2), 30 (several). June 13 (2).

70. *EMBERIZA RUTILA* Pall.

1911. May 21 (many).
 1913. May 20 (1).

71. *COTILE RIPARIA* (L.).

1911. May 21 (1).
 1912. June 2 (many, probably breeding in the vicinity).
 1913. May 17 (many passing the port), 19 (many passing),
 20 (seen).

72. *CHELIDON LAGOPODA* (Pall.).

1913. May 18 (1).

73. *HIRUNDO GUTTURALIS* Scop.

1911. April 17 (2), 18 (seen), 23 (building).
 1912. April 24 (1), 30 (1). May 3 (several). June 2 (many,
 probably summer visitants).
 1913. April 10 (2), 12 (1), 14 (2), 16 (5), 21 (2), 26 (many). May
 1, 3, 9, and 13 (seen), 14 and 15 (many), 16 (seen), 17 and
 18 (many), 19 (very many), 20 (seen).

74. *HIRUNDO ERYTHROGASTRA* Bodd.

1912. May 30 (1).
 1913. April 16 (1), 20 (7), 26 (1), 27 (2). May 1 (seen), 5 (2),
 8 (seen), 9 (1), 15 (seen), 18 (a few), 19 and 20 (seen).

75. *HIRUNDO NIPALENSIS* Hodgson.

1911. April 20 (3), 23 (seen).
 1912. April 24 (1). May 5 (preparing to nest). June 2 (many,
 probably breeding in the vicinity).
 1913. April 14 (3). 21 and 23 (many), 30 (1). May 2 (building),
 3, 9, and 13 (seen), 14, 16 to 19 (many), 20 (seen).

76. *MOTACILLA LEUCOPSIS* Gould.
1913. April 21 (1).
77. *MOTACILLA OCULARIS* Swinhoe.
1911. April 25 (a small party).
1913. April 27 (20). May 11 (several).
78. *MOTACILLA MELANOPE* Pall.
1911. May 21 (one seen inland).
- [NOTE.—Records relating to *Motacilla flava*, *borealis*, and *taiwana* were not kept separate and are therefore omitted.]
79. *LIMONIDROMUS INDICUS* (Gm.).
1913. May 12 (1), 20 (5).
80. *ANTHUS MACULATUS* (Hodgson).
1911. April 30 (a few). May 7 (great many).
1912. May 11 (1).
1913. April 29 (many). May 1 (seen), 2 (3), 4 (many), 6 and 8 (seen), 11 (many), 13 and 16 (seen).
81. *ANTHUS GUSTAVI* Swinhoe.
1913. May 20 (2), 25 (1).
82. *ANTHUS CERVINUS* Pall.
1911. May 14 (one large flock).
1912. May 15 (seen).
83. *ANTHUS JAPONICUS* T. & S.
1911. April 23 (a flock). May 5 (1 or 2), 7 and 8 (several).
1912. May 6 (seen).
1913. April 14 (20), 20 (1), 27 (many), 28 (10), 29 (seen), 30 (many).
May 1 and 2 (seen), 3 (many), 5, 6, 8, and 10 (seen).
84. *ANTHUS RICHARDI* Vieill.
1911. May 7 (several), 8 (many).
1912. May 15 (seen).
1913. May 5 (1), 6 (3), 8 (3), 10 (3), 11 (10), 16 (seen).
85. *ALAUDULA CHELENSIS* Swinhoe.
1911. Feb. 12 (one frozen on the breakwater), 19 (many). April 14 (seen), 20 (several). May 5 (nesting).
1912. May 14 (seen).
1913. April 6 (20), 12 (seen), 16 (3), 19 (seen), 23 (5), 25 (seen).
May 2 and 14 (seen).
86. *CALANDRELLA BRACHYDACTYLA* (Leisl.).
1913. April 19 (three flocks 300-400 in all), 27 (a flock of about 100).

87. *ALAUDA ARVENSIS* L.

1911. March 12 (several), 19 (seen), 22 (many), 23 (seen), 24 (a few)
26 (large flocks), 31 (a few). April 9 (a flock).
1912. March 24 and April 1 (seen).
1913. March 9, 11, and 13 (many), 14 (10), 15 (50), 16, 18, 19, and
20 (many), 21 (30), 27 (seen at Hsieh Chia Ying). April
4 (3), 6 (20), 10 (5), 12 (seen), 13 (a few), 19 (seen).

88. *HYPOPICUS POLIOPSIS* Swinhoe.

1913. May 11 (2), 20 and 22 (2).

89. *LYNX TORQUILLA* L.

1912. May 11 (1), 15 (2).
1913. April 24 (1), 26 (1). May 8 (2), 14 (1), 16 (1), 20 (2 inland
and 1 at port).

90. *ALCEDO BENGALENSIS* Gm.

1911. May 21 (2).
1913. May 11 (2).

91. *UPUPA EPOPS* L.

1911. March 22 (1), 26 (10), 27 (seen). April 2 (2), 3 (a few),
4 (seen), 10 (several), 12 (several), 18 (seen), 21 (several).
1912. March 11 (1), 24 (1), 25 (1), 28 (several), 30 (2 or 3), 31 (2).
April 1 (seen), 2 (4 or 5), 5 (seen), 8 (seen), 9 (1), 13 (1),
20 (seen), 30 (2). May 4 (1), 5 (1), 13 (1).
1913. March 27 (1 at the port) (7 at Hsieh Chia Ying), 28 (2 at
Hsieh Chia Ying), 30 (3), 31 (6). April 1 (10), 2 (1), 4 (1),
6 (1), 11 (8), 12 (4), 14 (4), 15 (seen), 16 (4), 17 (8), 18 (5),
19 (8), 20 (2), 21 (3), 25 (1), 27 (1), 29 (1). May 1 (1),
2 (1), 3 (2), 19 (1), 31 (3).

92. *CYPSELUS PEKINENSIS* Swinhoe.

1911. May 7 (breeding at Shanhaikuan), 12 (a flock).
1913. May 31 (breeding at Shanhaikuan).

93. *CYPSELUS PACIFICUS* Lath.

1911. June 4 (large flock), 8 (a flock), 9 (a large flock), 10 (a large
party from east to west), 15 (a flock, apparently only
evening visitors from an adjacent breeding haunt).
1912. June 5 (a flock), 9 (seen), 10 to 12 (seen).
1913. April 14 (2). May 9 (2), 17 (2), 19 (a few), 26 (a few).
June 4 (a flock to north), 6 (some about), 7 (seen), 14 (a
flock), 15 (a large flock).

Birds seen after the 5th of June were probably residents
visiting the port.

94. *CAPRIMULGUS JOTAKA* T. & S.
 1912. June 3 (1).
 1913. May 14 (1), 18 (1), 20 (3). June 4 (1), 10 (1).
95. *CUCULUS CANORUS* L.
 1911. May 21 (1), 28 (1).
 1912. June 2 (several).
 1913. May 11 (1), 16 (1), 20 (3), 23 (2), 25 (2).
96. *ASIO OTUS* L.
 1911. March 24 (1), 26 (1), 27 (2). April 6 (1), 12 (many, some of these were possibly *A. brachyotus*), 13 (2).
 1912. April 1 (1), 5 (1), 21 (1).
 1913. March 19 (2), 25 (1), 27 (1). April 24 (1).
97. *NINOX JAPONICA* T. & S.
 1913. May 16 (1).
98. *BUTASTUR INDICUS* (Gm.).
 1913. May 1 (2), 7 (1).
99. *MILVUS MELANOTIS* T. & S.
 1911. March 26 (1). April 2 (2). June 11 (1).
 1912. March 17 (1). May 3 (2), 6 (1), 15 (2). June 15 (1).
 1913. Feb. 23 (1). March 9 (2). April 7 (2), 9 (2), 10 (2), 16 (2), 19 (2), 21 (1). May 7 (5).
 Those seen in June were probably summer visitants.
100. *CIRCUS CYANEUS* (L.).
 1911. April 19 (1).
 1913. April 11 (1), 27 (1).
101. *CIRCUS MELANOLEUCUS* (Förster).
 1911. April 14 (several).
 1913. April 11 (seen). May 11 (1).
102. *CIRCUS* sp.
 1911. April 18 (several), 16 and 19 (several).
 1912. April 10 (1).
 1913. March 25 (1). April 6 (1), 14 (1), 16 (1), 23 (1). May 1 (2), 7 (3), 9 (1), 17 (1).
103. *BUTEO HEMILASIUS* T. & S.
 1913. March 26 (1), 29 (1). April 13 (1), 14 (1).
104. *BUTEO PLUMIPES* (Hodgson).
 1913. May 16 (1), 20 (1).

105. ACCIPITER NISUS (L.).

1911. April 30 (1).

1913. May 1 (1).

106. ASTUR PALUMBARIUS (L.).

1913. March 21 (a freshly shot example in the market).

107. FALCO SACER Gm.

1913. March 9 (1).

108. FALCO PEREGRINUS L.

1911. June 12 (1).

1913. April 19 (1). May 7 (1).

109. FALCO SUBBUTEO L.

1913. May 14 (2), 16 (1), 18 (2), 19 (1), 20 (2).

110. AESALON REGULUS (Pall.).

1911. April 14 (1).

1913. March 16 (1), 20 (1). April 12 (1), 20 (1), 21 (1).

111. ERYTHROPUS AMURENSIS (Radde).

1911. May 5 (2), 6 (1), 7 (1), 14 (2), 21 (several seen inland, some breeding), 24 (several).

1912. April 21 (several).

1913. April 29 (3). May 1 (4), 4 (seen), 11 (10), 13 (5), 16 (seen), 20 (seen), 25 (2).

112. CERCHNEIS JAPONICUS (T. & S.).

1911. April 2 (1).

1913. March 21 (1). April 6 (1), 23 (seen).

113. TURTUR ORIENTALIS Lath.

1911. April 10 (1), 12 (2), 13 (1), 20 (1), 22 (1), 24 (1), 25 (1), 30 (2). May 25 (1).

1912. April 21 (2), 30 (7). May 13 and 15 (several). June 7 (1).

1913. March 27 (1). April 8 (1), 11 (10), 12 (1), 27 (2), 29 (1). May 2 (2), 4 (4), 5 (2), 6 (2), 7 (3), 17 (4), 18 (2), 20 (seen), 27 (2), 30 (1). June 1 (1), 6 (7), 11 (2).

114. COTURNIX COMMUNIS vel JAPONICA.

1911. Feb. 26 (1). March 4 (3), 12 (1), 19 (1). April 9 (2), 10 (2), 11 (2 or 3), 21 (1). May 15 (1).

1912. May 11 (1), 13 (1), 15 (many), 28 (several).

1913. April 23 (1). May 19 (1), 20 (1), 22 (1). June 5 (1), 11 (a few).

115. COTURNIX COMMUNIS Bonn.

1913. March 15 (1). April 18 (1).

Probably most of the *early* records under the preceding heading related to this species.

116. COTURNIX JAPONICA Cassin.

1911. May 16 (2), 25 (2).

1912. May 15 (a great many).

1913. May 17 (a great many, at least 100, of these 21 shot were all of this species), 26 (1), 30 (4).

Probably most of the *late* records under heading of *C. communis* vel *japonica* related to this species.

117. TURNIX BLANFORDI Blyth.

1911. May 25 (1). June 8 (2).

1912. May 11 (1), 15 (a great many), 28 (1).

1913. May 31 (1). June 2 (1), 5 (5), 6 (2), 7 (1).

118. PORZANA PUSILLA Pall.

1911. May 28 (1).

1913. May 20 (2). June 11 (1).

119. GALLICREX CINEREA (Gm.).

1913. April (one shot at Shanhaikuan).

120. FULICA ATRA L.

1913. (One seen by collectors, date not noted.)

121. GRUS sp.

1912. March 31 (2 flocks). April 6 (12).

1913. March 15 (3), 27 (2/3000), 28 (many), 29 (50), 30 (30), 31 (many). April 1 (many).

122. OTIS DYBOWSKII Tacz.

1911. March 11 (1 flock). April 12 (3 flocks), 13 (1 flock), 14 (many), 16 (10 in the fields, and a large flock passing), 19 (2 flocks), 20 (2 flocks), 23 (5). May 7 (5).

1912. April 3 (1 flock), 21 (1).

1913. March 16 (2), 18 (30), 19 (13), 26 (2), 27 (8), 28 (30), 29 (20), 31 (10). April 5 (1 flock), 8 (5), 12 (16), 13 (4), 14 (6), 17 (3), 20 (14), 26 (3), 27 (1), 29 (1).

123. GLAREOLA ORIENTALIS Leach.

1911. April 16 (1). May 5 (a flock).

1913. April 25 (4). May 1 (1 flock).

124. *MICROSARCOPS CINEREUS* (Blyth).
 1911. March 26 (2).
 1913. April 1 (6), 12 (2).
125. *VANELLUS CRISTATUS* Wolf & Meyer.
 1911. March 19 (a good many). April 2 (a few).
 1912. March 10 (seen). April 5 (4), 21 (a flock).
 1913. March 26 to 29 and 31 (many at Hsieh Chia Ying). April 1
 (many at same place), 6 (seen), 10 (100), 13 (large flock),
 14 (8), 16 (20), 23 (6).
126. *SQUATAROLA HELVETICA* (L.).
 1913. March 15 (8), 16 (5). April 20 (3), 23 (10). May 8 (5),
 24 (10).
127. *ÆGIALITIS VEREDUS* (Gould).
 1911. April 14 (a flock).
128. *ÆGIALITIS GEOFFROYI* (Wagler).
 1913. May 22 (1).
129. *ÆGIALITIS MONGOLICUS* (Pall.).
 1913. May 16 (5).
130. *ÆGIALITIS PLACIDUS* (Gray).
 1911. May 28 (2 inland, apparently paired).
131. *ÆGIALITIS MINOR* (Wolf & Meyer).
 1911. April 16 (several). May 5 (a few), 6 (2), 25 (1).
 1912. April 21 (a few).
 1913. April 11 (1), 25 (seen). May 1 and 24 (seen).
132. *ÆGIALITIS CANTIANUS* (Lath.).
 1913. April 12 (7), 15, 16, and 19 (seen), 20 (20), 23 (many), 25,
 28, and 29 (seen).
133. *HÆMATOPUS OSCULANS* Swinhoe.
 1911. May 20 (1).
 1913. May 24 (2).
134. *HIMANTOPUS CANDIDUS* Bonn.
 1911. May ? (one shot at Lanchow).
 1913. April 12 (1), 19 (20). May 3 (11), 4 (1), 16 (6).
135. *NUMENIUS ARQUATUS* vel *CYANOPUS*.
 1911. March 19 (seen). April 9 (seen), 18 (seen). May 5 (a
 party), 20 (5).
 1912. April 5 (1), 6 (6), 17 (a flock). May 5 (seen).
 1913. March 25 (1). May 12 (a flock), 18 (1).

136. *NUMENIUS ARQUATA* L.
1912. April 21 (3).
1913. March 31 (5). April 1 (3) (at Hsieh Chia Ying), 6 (4),
19 (1), 28 (1).
137. *NUMENIUS CYANOPUS* Vieill.
1913. April 12 (2), 19 (10), 20 (seen), 23 (2), 25 (1). May 3 (1).
138. *NUMENIUS VARIEGATUS* Scop.
1913. May 2 (3), 3 (8), 4 (8), 7 (1 flock), 16 (1), 24 (50).
139. *MESOSCLOPAX MINUTUS* (Gould).
1913. April 14 (1), 25 (17). May 3 (6), 6 (20).
140. *TOTANUS HYPOLEUCUS* L.
1913. May 24 (3).
141. *TOTANUS GLAREOLA* (L.).
1912. May 5 (a few).
1913. May 4 (10), 11 (many).
142. *TOTANUS OCHROPUS* (L.).
1911. May 28 (2 inland, apparently mated).
1913. April 29 (1). May 11 (several), 13 (seen).
143. *TOTANUS FUSCUS* (L.).
1913. March 27 (1), 31 (4). April 6 (1).
144. *TOTANUS CALIDRIS* (L.).
1912. March 31 (1).
1913. March 26 (seen at Hsieh Chia Ying). May 4 (1), 8 (8),
14 (3), 16 (2).
145. *TEREKIA CINEREA* (Güldenst.).
1913. May 1 (1), 3 (1), 8 (10), 16 (3).
146. *CALIDRIS ARENARIA* (L.).
1913. May 18 (6 or 7).
147. *TRINGA AMERICANA* (Cass.).
1913. May 3 (5).
148. *TRINGA ACUMINATA* (Horsf.).
1911. May 22 (a small flock).
149. *GALLINAGO CÆLESTIS* (Frenz.).
1911. April 2 (1), 9 (1), 14 and 16 (many), 23 (several). May 5
(many).
1912. April 5 (30), 21 (1).
1913. March 27 (2 at Hsieh Chia Ying). April 13 (1), 16 (2),
17 (1), 19 (1), 23 (2). May 3 (1), 4 (1), 11 (seen).

150. *GALLINAGO STENURA* (Bp.).

1912. May 15 (a few of this or possibly the next species).

1913. May 11 (several), 20 (4).

151. *GALLINAGO MEGALA* Swinhoe.

1913. May 11 (several).

152. *SCOLOPAX RUSTICULA* (L.).

1911. May 6 (1).

1913. May 20 (1).

153. *LARUS RIDIBUNDUS* L.

1911. March 26 (a number). April 9 and 20 (many), (1).

1913. March 15 (50), 16 (many), 17 and 19 (seen), 21 (many), 26 (50 at Hsieh Chia Ying). April 6 (many), 12 (seen), 15, 16, 20, 23, 24, and 26 (many). May 1 (many), 3 and 8 (seen).

154. *LARUS VEGÆ* vel *CACHINNANS*.

1911. May 11 (1).

1913. March 9 (4), 15 (10), 16 (many), 17 and 19 (seen), 21 (many), 30 (1). April 13 (3), 20 (seen), 23 (3).

155. *STERNA ANGLICA* Mont.

1913. May 4 (1).

156. *STERNA LEUCOPTERA* (Schinz).

1913. Seen by collectors, but no record of date.

157. *STERNA SINENSIS* Gm.

1913. May 22 (5), 24 (2), 31 (3).

158. *STERNA* sp.

1913. May 18 (a party of dark Terns, the size of the Noddy, seen fishing on the coast).

159. *PHALACROCORAX CARBO* (L.).

1911. April 20 (4).

1912. April 6 (6).

1913. March 28 (2 seen at Hsieh Chia Ying). April 6 (4), 8 (10), 16 (1), 19 (10), 23 (2), 25 (2).

160. *ARDEA CINEREA* L.

1911. March 19 (1). April 2 (1), 14 (several), 16 (small flock). May 20 (a few), 28 (1).

1912. March 31 (seen).

1913. March 20 (1), 21 (2), 29 (3 at Hsieh Chia Ying). April 1 (a few at Hsieh Chia Ying), 6 (6), 8 (1), 13 (1), 19 (2), 20 (1), 25 (1). May 1 (10), 11 (1), 13 (1), 31 (7).

161. *ARDEA MANILLENSIS* Meyer.
1911. April 14 (many).
1913. May 11 (1).
162. *BOTAURUS STELLARIS* (L.).
1913. March 30 (1 at Hsieh Chia Ying).
163. *NYCTIARDEA NYCTICORAX* (L.).
1913. March 29 (1 at Hsieh Chia Ying). April 29 (1).
164. *ARDETTA EURYTHMA* Swinhoe.
1911. May 28 (1).
1913. May 20 (1).
165. *BUTORIDES AMURENSIS* (Schrenck).
1913. May 31 (1).
166. *ANSER RUBRIROSTRIS* Hodgson.
1913. March 27 (1 at Hsieh Chia Ying), 29 (5 at same place).
167. *ANSER SEGETUM* (Gm.).
1911. March 31 (1 purchased).
1913. March 19 (2 shot), 20 (1 shot), 26 (2 shot), 29 (2 shot).
168. *ANSER SERRIROSTRIS* Swinhoe.
1912. March 10 (a large flock).
1913. March 15 (1 shot).
169. *ANSER MIDDENDORFFI* Severtz.
1913. March 29 (1 shot).
170. *ANSER ALBIFRONS* (Gm.).
1911. March 15 (a flock). April 14 (10).
171. *ANSER ERYTHROPUS* (L.).
1911. April 14 (a flock).
1913. April 6 (a flock most probably of this species).
172. *ANSER* sp.
1911. Feb. 27 (a flock), 28 (2 flocks). March 3 (passing), 4 (a flock), 5 (several flocks to S.W.), 12 (several flocks to S.W.), 19 (a great many passing), 20 to 23 (many flocks passing), 26 (many flocks passing, some settled), 28 (passing). April 9 (3), 10 (several flocks), 11 (a few flocks), 12 (hundreds on the flats), (1 flock passing), 13 (3 flocks), 14 (1 flock on the flats and many passing birds), 16 (seen on the plain).

1912. March 3 (1 flock on the plain), 7 (many flocks reported flying backwards and forwards), 10 (a great many), 11 (a great many), 16 (passing), 17 (many), 18 (2 flocks), 19 (a few), 22 (a few flocks), 31 (1). April 23 (5).
1913. March 9 (10), 10 (3 flocks), 11 (3/400), 15 (100), 16 (200), 17 (6), 18 (300), 19 (2/3000), 20 (100), 21 (2 flocks), 22 (100), 23 (passing), 25 (2 flocks), 26 (200 at Hsieh Chia Ying, some passing the port), 27 to 31 (many at Hsieh Chia Ying), 31 (1 flock passing port). April 1 (many at Hsieh Chia Ying, and several large flocks passing port), 2 (passing), 3 (200), 6 (100), 8 (60), 12 (1), 16 (some passing).
173. *CYGNUS JANKOWSKYI* Alphéraky.
 1911. March 14 (1 shot).
 1913. March 27 (1).
174. *CYGNUS* sp.
 1911. March 5 (seen on the river), 19 (2 or 3 small flocks), 23 (1 large flock), 26 (2 on the flats), 31 (9).
 1913. March 19 (16), 26 (5 at Hsieh Chia Ying), 27 (200 at Hsieh Chia Ying), 29 (30). April 1 (100 at Hsieh Chia Ying, passing at the port).
175. *ANAS BOSCHAS* L.
 1911. March 5 (seen on river). May 5 (2 or 3).
 1913. March 15 (50 or 60), 16 (10), 21 (200), 26 and 27 (seen at Hsieh Chia Ying). April 8 and 12 (seen), 13 (a flock).
176. *ANAS ZONORHYNCHA* (Swinhoe).
 1913. March 20 (8), 27 (seen at Hsieh Chia Ying). April 6 (seen), 19 (10).
177. *TADORNA CORNUTA* (Gm.).
 1913. April 6 (4).
178. *CASARCA RUTILA* (L.).
 1911. April 2 (2 flocks), 9 (1).
 1912. March 3 (3 small parties).
 1913. March 1 (1 flock), 11 (30), 12 (15), 15 (100), 16 and 18 (100), 19 to 22 (many), 26 (30). April 6 and 9 (seen), 19 (5). May 3 (7).
179. *ÆX GALERICULATA* (L.).
 1913. April 17 (1).
180. *DAFILA ACUTA* (L.).
 1912. Feb. 25 (20). March 3 (a few), 10 (many), 31 (seen). April 5 (1 flock).
 1913. March 15 (2/300), 16 (40), 20 (20), 21 (10), 26 and 27 (seen at Hsieh Chia Ying). April 6, 8, and 15 (seen).

181. *MARECA PENELOPE* (L.).

1911. April 12 (seen).

1913. April 6 (seen).

182. *CHAULELASMUS STREPERUS* (L.).

1911. April 12 (1 shot).

1913. April 6 (1).

183. *SPATULA CLYPEATA* (L.).

1912. March 10 (a few).

1913. March 20 (10). April 6, 9, and 15 (seen), 16 (7), 19 (a number), 20 (several), 26 (several). May 1 (4), 4 (seen), 14 (10).

184. *EUNETTA FALCATA* (Pall.).

1912. March 17 (seen).

1913. March 15 (10), 26 (some in market), 27 (seen at Hsieh Chia Ying). April 6, 8, and May 4 (seen).

185. *NETTIUM FORMOSUM* (Georgi).

1912. March 10 (many).

1913. March 15 (30 or 40), 16 (80), 20 (50), 26 (10 at Hsieh Chia Ying, and in the market at the port), 27 (seen at Hsieh Chia Ying).

186. *NETTION CRECCA* (L.).

1911. April 12 (seen).

1912. March 10 (many).

1913. March 27 and 30 (seen at Hsieh Chia Ying). April 6, 12, 13, 14, and 20 (seen at the port).

187. *QUERQUEDULA CIRCIA* (L.).

1913. March 26 (for sale). April 6 (seen), 19 (many), 24 (50), 26 (seen). May 1 (many), 3 and 4 (seen), 14 (10), 31 (20).

188. *FULIGULA CRISTATA* (Steph.).

1913. March 27 and 29 (at Hsieh Chia Ying, many on the latter date). May 4 (a wounded bird).

189. *CLANGULA GLAUCION* (L.).

1913. March 15 (1), 18 (3). April 15 (seen), 23 (4).

190. *OIDEMIA CARBO* (Pall.).

1913. Feb. 6 (1), 21 (1). April 14 (1 captured).

191. *MERGUS MERGANSER* L.

1911. March 5 (on river).

1913. March 15 (5).

192. *MERGUS ALBELLUS* (L.).

1911. March 5 (on river).

1913. March 20 (8). April 1 (30), 8 (2).

193. *Ducks* sp.

1911. March 4 (2 or 3 flocks), 5 (several flocks), 16 (many), 19 (a great many), 20 (thousands), 21 (many), 22 (several), 23 (a few on the ponds), 26 (many flocks), 31 (a few flocks). April 3 (2 small flocks), 4 (numbers), 6 (a great many), 9 (a flock), 11 (a few flocks), 12 (many on ponds), 13 (a few). May 3 (1 flock), 5 (a few).

1912. Feb. 27 (a great number on the sea). March 7 (many reported flying backward and forward), 11 (a great many), 16 and 17 (many), 19 (a few), 21 (1 flock), 22 (a few flocks), 25 (1 flock), 29 and 31 (many on ponds). April 7 (1 flock), 9 (1 flock), 21 (seen).

1913. March 5 (1 flock), 15 (1 flock), 19 (great numbers), 21 and 22 (many), 26 (passing port), 28 and 29 (many of all kinds at Hsieh Chia Ying). April 13 (a few). May 31 (2 flocks of 40).

XXXVI.—*A Note on the Breeding of the White-rumped Swift* (*Micropus pacificus*). By Capt. HENRY LANE COCHRANE, R.N., M.B.O.U.

(Plate XXV.)

As there appears to be little published information on the subject of the breeding of the White-rumped Swift, a few observations made recently off the north-eastern coast of China may be of interest.

These beautiful birds are very abundant during the summer months on the Shantung littoral, and may be seen on a fine evening, flying over the summits of the rocky hills, hunting their prey, with a moderate amount of subdued screaming.

It was known that they bred in the neighbourhood, possibly among the many rocky ravines, though searches had proved ineffectual; also, it is on record that a breeding place in the shape of a rocky island had been visited, where,